This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A deposit monitoring apparatus located in a hydrocarbon wellbore comprising:

an acoustic device ~~adapted to~~ for ~~operate~~ operating in a resonance mode which is longitudinal including a monitoring surface directly exposed to fluids in a hydrocarbon wellbore, wherein the deposition of material on the monitoring surface is monitored by measuring a change in resonance frequency of the acoustic device; and

a power supply ~~adapted to~~ for supplying said ~~monitor~~ acoustic device with electrical energy.

2. (original) The apparatus of claim 1, wherein the acoustic device is mounted either permanently or quasi-permanently in the wellbore.

3. (cancelled).

4. (previously presented) The apparatus of claim 1, wherein the acoustic device further comprises a transducer, and a focussing element coupled to the transducer.

5. (original) The apparatus of claim 4, wherein the focussing element is an acoustic horn.

6. (original) The apparatus of claim 1, wherein the resonance frequency of the acoustic device is in the range of 10 kHz to 150 kHz.

7. (original) The apparatus of claim 6 wherein the resonance frequency of the acoustic device is in the range of 50 kHz to 100 kHz.

8. (original) The apparatus of claim 1, wherein the monitoring surface is located on or near one of the following devices switches, valves, sleeves, mandrels, downhole separators and sensors located in the wellbore.

9. (currently amended) The apparatus of claim 1 further comprising a deposit removal system ~~adapted to~~ for at least partially ~~remove~~ removing the deposition from the monitoring surface, the deposit removal system being in a control loop with said deposit monitor.

10. (original) The apparatus of claim 9, wherein the deposit removal system includes a deposition inhibiting or removing chemical agent.

11. (original) The apparatus of claim 9, wherein the deposit removal system uses the acoustic device to exert a physical force onto the deposited material.

12. (original) The apparatus of claim 9, wherein the deposition removal system is near a sensor having a surface exposed to the fluids and the deposition removal system is adapted to remove deposits from said exposed surface.

13. (original) The apparatus of claim 12, wherein the sensor is selected from a group comprising optical sensors, electro-chemical sensors, or acoustic sensors.

14. (previously presented) The apparatus of claim 12, wherein the exposed sensor surface is selected from a group comprising optical windows, membranes, or sensitive areas of acoustic sensors.

15. (currently amended) The ~~sensor~~ apparatus of claim 1, ~~wherein the sensor includes~~ comprising an additional sensing system to analyze material deposited on the monitoring surface.

16. (currently amended) A monitoring apparatus located in a hydrocarbon wellbore, comprising:

a monitor ~~adapted to~~ for ~~measure~~ measuring characteristics of fluids in the hydrocarbon wellbore the monitor having a monitoring surface that is directly exposed to fluids in the hydrocarbon wellbore;

a deposit removal system including an acoustic device ~~adapted to~~ for exerting a physical force on the monitoring surface to at least partially remove a deposition of material from the monitoring surface, ; and

a power supply ~~adapted to~~ for supplying said ~~deposit removal system~~ acoustic device with electrical energy.

17. (original) The apparatus of claim 16, wherein the monitoring surface is located on or near one of the following devices: switches, valves, sleeves, mandrels, downhole separators and sensors located in the wellbore.

18. (previously presented) The apparatus of claim 16 wherein the monitor further comprises an acoustic device adapted to operate in a resonance mode, wherein the monitor measures deposition of the material on the monitoring surface by measuring a change in resonance frequency of the acoustic device of the monitor.

19. (original) The apparatus of claim 18, wherein the acoustic device operates in a longitudinal mode.

20. (original) The apparatus of claim 18, wherein the acoustic device further comprises a transducer, and a focussing element coupled to the transducer.

21. (original) The apparatus of claim 18, wherein the resonance frequency of the acoustic device is in the range of 10 kHz to 150 kHz.

22. (original) The apparatus of claim 18, wherein the deposit removal system includes a deposition inhibiting or removing chemical agent.

23. (cancelled).

24. (cancelled).

25. (currently amended) The apparatus of claim 16, wherein the monitor is selected from a group comprising optical sensors, electro-chemical sensors, or acoustic sensors separate from the force exerting acoustic device.

26. (previously presented) The apparatus of claim 16 wherein the monitor is a gamma ray density measurement system.

27. (previously presented) The apparatus of claim 26 wherein the monitoring surface is a nuclear window.

28. (previously presented) The apparatus of claim 16 wherein the monitor is an optical fluid analyzer.

29. (currently amended) The apparatus of claim 28 wherein the monitoring surface includes ~~and~~ an optical window.

30. (previously presented) The apparatus of claim 16 wherein the monitor is used to measure activity of an ionic species contained in the wellbore fluid.

31. (previously presented) The apparatus of claim 30 wherein the monitoring surface is a membrane of an ion selective electrode.

32. (previously presented) The apparatus of claim 16 wherein the monitoring surface is a separation membrane.

33. (previously presented) The apparatus of claim 18 wherein the acoustic device of the monitor is the acoustic device of the deposit removal system.

34. (currently amended) A deposit monitoring apparatus located in a hydrocarbon wellbore comprising:

an acoustic device ~~adapted to~~ for ~~operate~~ operating in a resonance mode including a monitoring surface directly exposed to fluids in a hydrocarbon wellbore,

wherein the deposition of material on the monitoring surface is monitored by measuring a change in resonance frequency of the acoustic device, and wherein by measuring said change in resonance frequency of the acoustic device a thickness of deposited material of 600 microns can be distinguished from a thickness of deposited material of 1050 microns; and

a power supply ~~adapted to~~ for supplying said ~~monitor~~ acoustic device with electrical energy.

35. (previously presented) The apparatus of claim 34, wherein the acoustic device is mounted either permanently or quasi-permanently in the wellbore.

36. (previously presented) The apparatus of claim 34, wherein the acoustic device operates in a longitudinal mode.

37. (previously presented) The apparatus of claim 36, wherein the acoustic device further comprises a transducer, and an acoustic horn coupled to the transducer.

38. (previously presented) The apparatus of claim 34, wherein the resonance frequency of the acoustic device is in the range of 10 kHz to 150 kHz.

39. (previously presented) The apparatus of claim 34, wherein the monitoring surface is located on or near one of the following devices switches, valves, sleeves, mandrels, downhole separators and sensors located in the wellbore.

40. (previously presented) The apparatus of claim 34, further comprising a deposit removal system adapted to at least partially remove the deposition from the monitoring surface using the acoustic device to exert a physical force onto the deposited material, the deposit removal system being in a control loop with said deposit monitor.

41. (previously presented) The apparatus of claim 40, wherein the deposition removal system is near a sensor having a surface exposed to the fluids and the deposition removal system is adapted to remove deposits from said exposed surface.